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Deposited in DRO:

27 August 2020

Version of attached file:

Published Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Klimas, P. and Czakon, W. and Kraus, S. and Kailer, N. and Maalaoui, A. (2021) 'Entrepreneurial Failure: A Synthesis and Conceptual Framework of its Effects.', *European management review.*, 18 (1). pp. 167-182.

Further information on publisher's website:

<https://doi.org/10.1111/emre.12426>

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Entrepreneurial Failure: A Synthesis and Conceptual Framework of its Effects

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Failure is not the outcome which entrepreneurs strive for when they start their businesses. However, thousands of entrepreneurs fail each year, experiencing painful and damaging consequences in their professional and private lives. Current knowledge on entrepreneurial failure is quite fragmentary. Our study aims at integrating knowledge on the effects of entrepreneurial failure. Departing from a systematic literature review, we develop a multilevel framework of entrepreneurial failure effects which categorises: (1) their manifestations over time; (2) the directness of the link to the failure event; (3) the degree of impact on the failed entrepreneur; and (4) the level of long-term outcomes generated. Our findings reveal a broad scope of multilevel impacts of entrepreneurial failure.

Keywords: entrepreneurial failure; entrepreneurship; failure outcomes; failure effects; literature review

Introduction

To date, business failure has been mostly researched in economics and finance (Walsh and Cunningham, 2016), only very recently has entrepreneurial failure (EF) attracted attention in business research, and since doing so it has become one of the fastest-growing research topics in the area (Jenkins and McKelvie, 2016). It contains two major streams of investigation: the *causes* of failure, and its *consequences* (Singh *et al.*, 2007; Khelil, 2016). The initial interest in EF focused on exploring causes, as their identification is a prerequisite for avoiding, or minimising its risk (McGrath, 1999). Scholars have considered theoretically and empirically various levels of failure factors, including environment, organisation, and the entrepreneur him- or herself (Khelil, 2016). Researchers examined multiple types of causes, such as statistical versus psychological (Artinger and Powell, 2016) or objective versus subjective ones (Jenkins and

McKelvie, 2016). At the same time, much less attention has been allocated to failure effects (Jeng and Hung, 2019). Yet, understanding both EF causes (Franco and Haase, 2010; Khelil, 2016) and effects (Cope, 2011; Yamakawa and Cardon, 2015) on individuals, organisations, and society (Cardon *et al.*, 2011) is essential (Zahra and Dess, 2001).

The body of knowledge about the effects of EF is scarce and fragmented. Initially, a strong emphasis has been placed on the effects of young entrepreneurs' failing (Khelil, 2016), particularly on start-ups (Politis, 2008; Artinger and Powell, 2016) and SMEs (Michael and Combs, 2008). Mature and larger firms, are considered as less prone to failure than young and small ones, as are more experienced, more capable of recognising environmental signals, more likely to choose market exit before EF becomes unavoidable, therefore are hardly ever investigated from EF perspective. This limits possibilities of running large-scale studies and makes existing data on EF effects incomplete, and makes identification and integration of distinctive categorisations much needed.

Also, knowledge on EF effects appears as fragmentary. Considerable effort has been allocated so far to

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individual-level issues only (Shepherd and Cardon, 2009; Cope, 2011). This narrows the scope of EF impacts to the entrepreneur as individual (Jeng and Hung, 2019), although the effects are highly complex and multifaceted (Jenkins and McKelvie, 2016). EF can be triggered by a wide range of multilevel causes (Ucbasaran et al., 2013; Yamakawa and Cardon, 2015; Khelil, 2016), subsequently involving emotional and psychological impacts on the entrepreneur (Patzelt and Shepherd, 2011; Ramoglou and Tsang, 2016; Shepherd et al., 2016), to generate effects at multiple levels of analysis (Cannon and Edmondson, 2001; Ucbasaran et al., 2013) varying in terms of the direction of influence (Jenkins and McKelvie, 2016), and longevity (Arino and de la Torre, 1998). Such complexity hinders comprehensive research covering all levels of causes and/or effects simultaneously, complicates gathering unbiased data on the retrospective event, and at best hampers sound research. One poignant example can be the challenge of rigorously collecting data from not-anymore-existing organisations. As a consequence, most research adopts a focused view on the effects experienced by individuals, leaving the organisation or business environment levels beyond the scope of analysis. Therefore, EF requires further conceptual works on structuring and categorisation, especially concerning the least recognised component of the EF process, namely the effects of failure (Dias and Teixeira, 2017).

Our study addresses the research question of *how do entrepreneurial failure effects manifest themselves?* As a contribution to entrepreneurship and EF literature, our paper provides a systematic literature review (Kraus et al., 2020) that deals with the effects of EF and develops the multilevel typology of outcomes that appear in a long-term perspective. We are addressing this specific knowledge gap because prior investigations are rather conceptual (Dias and Teixeira, 2017), usually adopt a micro-level perspective (Cope, 2011). In contrast to prior works, we explore wide range of effects by using three levels of influence: (1) the individual level (i.e., effects for the entrepreneur); (2) the organisational level (i.e., effects for the current/future business of the entrepreneur); and (3) the environmental level (i.e., effects for the surrounding environment in which the entrepreneur who failed is embedded). Furthermore, we discuss wide-range multi-level effects of EF seen as prerequisites to fail with optimisation of the effects, such as the maximisation and acceleration of any positives, as well as minimisation and delaying of any negative results. Thus, we contribute to the debate on how entrepreneurs can fail *intelligently* (Walsh and Cunningham, 2016).

Picturing the entrepreneurial failure

Even though scholars embrace the process approach to EF, no consensual position has yet been developed for

defining this process. Previous literature reviews are focused on EF definitions extensive and critical analysis (Ucbasaran et al., 2013), and consider the theoretical perspectives adopted so far (Dias and Teixeira, 2017). This tactic suggests that we are far from a solid understanding of this complex and paradoxical construct (Jenkins and McKelvie, 2016) including its development process as well (Walsh and Cunningham, 2016).

Delimiting the entrepreneurial failure phenomenon

EF is a significant part of the entrepreneurship process (McGrath, 1999; Zahra and Dess, 2001), which is an individual undertaking (Stevenson and Jarillo, 1990). We define EF as ‘a psycho-economic phenomenon characterised by the entry of an organisation into a spiral of underperformance (e.g., insolvency) and thus the entrepreneur’s entry into a psychological state of disappointment’ (Khelil, 2016, p. 76) caused by ‘not achieving entrepreneur’s expectations (e.g., insufficient current return, no growth expectation, poor efficiency, innovation that is too slow, etc.) in contrast to personal reasons’ (Dias and Teixeira, 2017, p. 4). Furthermore, we consider EF as a process covering three main phases (Ucbasaran et al., 2013; Dias and Teixeira, 2017): causes, event, and effects.

The individual context is distinctive for the EF and for the failure event in particular, clearly differentiating it from both business and individual exit (Knott and Posen, 2005). This delineation is necessary due to variation in the perspectives, as well as in the levels of analysis. EF refers to the entrepreneurship process failure considered from the perspective of the entrepreneur, as the event of failure is experienced only by the entrepreneur. Thus, EF focuses mainly on the individual level of analysis. In contrast, exit relates to the failure of an organisation (Jenkins and McKelvie, 2016). Indeed, ‘exit and failure are two distinct concepts’ (Wennberg and DeTienne, 2014, p. 11), and they do not necessarily overlap in business practice. In business reality, it is not very unusual that entrepreneurs do not close down their business (i.e., business exit), or sell it (i.e., individual exit), due to emotional involvement when experiencing an EF event or noticing that the business is ‘permanently [and inevitably] failing’ (McGrath, 1999, p. 14). On the other hand, there are also *serial entrepreneurs* who quite often leave their businesses (i.e., individual exit) to increase their own private benefits, seize emerging opportunities, or take on new business challenges (Ucbasaran et al., 2013; Wennberg and DeTienne, 2014) in different business surroundings. Those serial entrepreneurs do not experience the failure event, as they see neither themselves, nor their businesses as even being on the path of the EF process.

The process view

EF is inherent to entrepreneurship (McGrath, 1999), it is thus useful to adopt a process view in its conceptualisation (Zahra and Dess, 2001; Walsh and Cunningham, 2017). So far, the views on the EF process consistently identify three stages: causes, failure event, and effects (Ucbasaran *et al.*, 2013; Dias and Teixeira, 2017). A more detailed view into each stage suggests that different, partially overlapping and sometimes divergent approaches can be found (Figure 1).

We discuss those stages in a standard chronological order, assuming simultaneously they appear in some sequential order whereas are hardly separable. Indeed, they might be interlinked progressively and developmentally, but some regression couplings in the entire EF process may occur as well.

The causes of entrepreneurial failure. EF process starts with different types of causes. Their identification is most often based on the locus of causality. EF may be driven by external and internal causes (Yamakawa and Cardon, 2015; Walsh and Cunningham, 2017). These causes are likely to appear simultaneously, so that failure

results from both endogenous and exogenous factors. However, the impact of particular causes may vary in terms of their causal power (Franco and Haase, 2010).. Internal EF causes are identifiable within the entrepreneur at an individual level. Those causes are related to both their personal (e.g., personality, the values believed and mental and cognitive models) and professional life (e.g., inadequate social capital, lack of vision and strategy, and insufficient qualifications and experience). Following the behavioural perspective in entrepreneurship literature, those internal causes of failure can be considered as microfoundations: individual level factors, micromotives, micro-motors, microlevel origins (Felin and Foss, 2006).

External EF causes in turn appear in the environment, at: (1) meso level, encapsulating poor market condition, fierce competition and opportunistic behaviours in the entrepreneurial ecosystem of an organisation; and (2) macro level that is, the environment referring to ineffective institutional support, poor education, etc. External EF causes are sometimes labelled as *antecedents* (Jing *et al.*, 2016) to emphasise the indirect link to the failure event, as well as uncontrollability by entrepreneurs.

Besides antecedents, there are *drivers* shown as more directly linked to the failure event, controllable by the

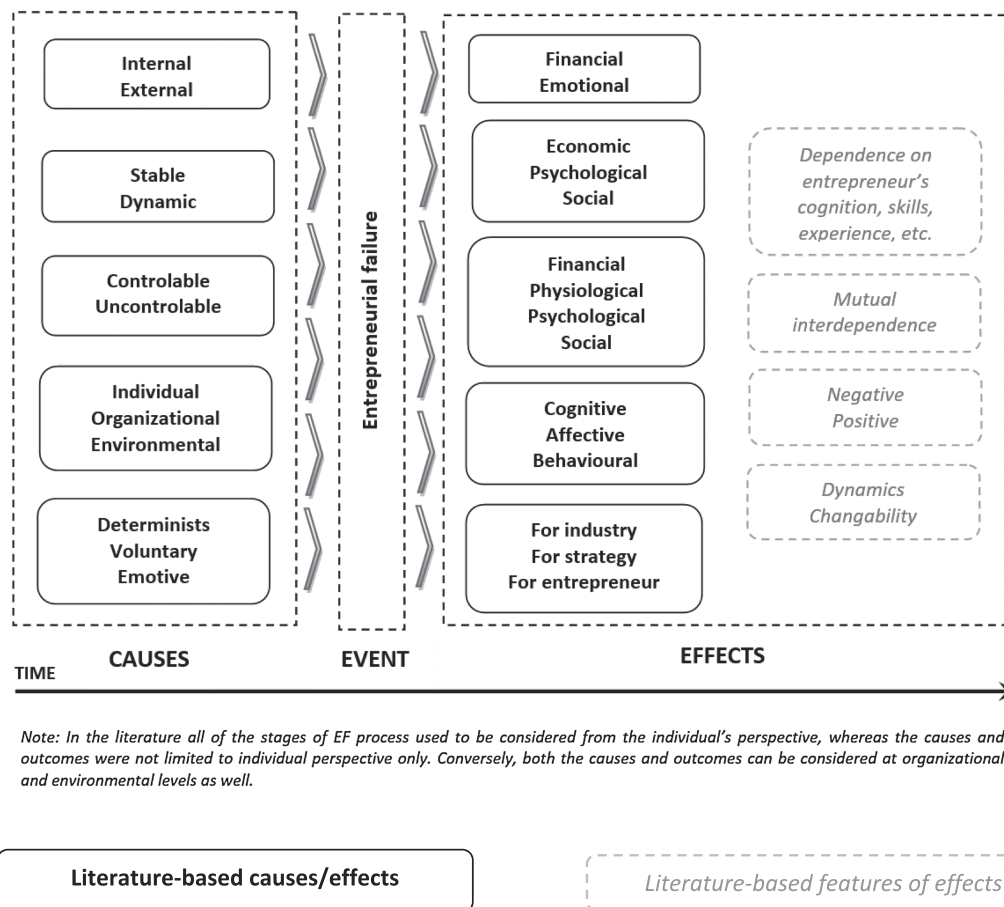


FIGURE 1 Current views on entrepreneurial failure process

entrepreneur, and entrepreneur's organisation (Khelil, 2016). The drivers can be considered either at micro or meso level as they appear in the entrepreneur (then take the form of microfoundations), or are related to the entrepreneur's organisation, such as shortcomings in either tangible (financial capital, etc.), or intangible resources (inadequate staff, organisational capabilities etc.).

We emphasise that all types of causes, that is, antecedents and drivers, impact an EF event, hence this impact may vary in terms of strength and time-to-failure event (Franco and Haase, 2010). Furthermore, EF causes impact also the EF effects, whereas this impact is indirect as going through the EF event (Dias and Teixeira, 2017).

Following a more detailed view on the causes of failure (Weiner, 1985; Yamakawa and Cardon, 2015), three distinction criteria can be used: (1) locus of causality; (2) level of stability; and (3) controllability by the entrepreneur. To our best knowledge, there is no prior classification of EF causes that simultaneously considers all three criteria. It seems, however, that the framework developed by Khelil (2016) incorporates the locus of causality and controllability, whereas this framework refers to directly triggering drivers. According to this framework, three complementary approaches to EF drivers can be distinguished: determinists, voluntary, and emotive. These approaches are complementary and mutually supportive, but draw from different theoretical concepts and investigate the reasons for failure at different analysis levels. Deterministic EF causes refer to organisation theory and focus on external conditions remaining outside the entrepreneur's influence. Second, voluntary EF causes use a resource-based view and focus mainly on conditions related to the lack of resources, which to some extent depend on actions undertaken by the entrepreneur, hence generally are related to organisations. Third, emotive EF causes are based on discrepancy theory and focus on the entrepreneur's determination, engagement and motivation. These approaches differ in terms of the level of analysis: determinist factors are considered at the environmental, voluntary at the organisational, and emotive at the individual level.

The entrepreneurial failure event. The vast majority of EF prior conceptualisations (Jenkins and McKelvie, 2016) relate only to the event of failure on the entrepreneurial path, that is, the occurrence of entrepreneur-experienced failure; the individual recognition of self-missed expectations, objectives, or business assumptions. By contrast, the process approach regards the EF event as a distinct phase in entrepreneurial process (Ramoglou and Tsang, 2016), which must not be considered in isolation from causes or effects.. The event of failure is subjectively experienced by individuals when they feel

that they have failed (Khelil, 2016; Dias and Teixeira, 2017). It can be considered at the individual level only (Jeng and Hung, 2019) as it is personally felt (Shepherd *et al.*, 2016).

This part of the EF process covers self-defeat as an entrepreneur. So EF does not necessarily occur when the survival of the organisation is at risk, or the firm generates losses for investors, creditors, and other stakeholders. It might be a subjective and personally biased perception of reality. Nonetheless, the EF event can be also a directly observable market distinction, that is, bankruptcy, business closure, business exit or individual exit, that occurs at a particular point (not a period) of time. We posit that the EF event covers both the personal experience of failure, taking the form of cumulative feeling of failing in meeting own expectations, and the market-observable act of failure in a point in time. Taken together, the EF event is seen as staggered and highly unclear in terms of precise timing and execution (Wennberg and DeTienne, 2014). This view suggests that at a particular point in time, some of the EF drivers and the personal act of feeling failure might overlap.

The EF event is the second component of the EF process (Ucbasaran *et al.*, 2013; Dias and Teixeira, 2017). It is an individual-level phenomenon, while other stages of the process are multilevel. Its timespan is much narrower as compared to causes and effects, as it refers to the act of awareness, or an subjective moment in time. Indeed, the beginning of EF event, and particularly its 'end' are shown as recognisable by the entrepreneur, thus the event is seen as more clearly distinguishable phenomenon than remaining components of EF process. Indeed, even in research practice, the causes and drivers are shown as less transparent and hard to directly define in terms of their 'beginning and end', for example, due to their more multilevel nature.

*The effects of entrepreneurial failure. The last component of the EF process – its effects – remains least recognised. Our understanding of those effects appears asymmetrical as the individual perspective, and the consideration of negatives prevail. Prior EF research (Ucbasaran *et al.*, 2013; Walsh and Cunningham, 2016; Dias and Teixeira, 2017) considered EF effects as dichotomous. However, we argue its paradoxical rather than dichotomous nature because the effects may be simultaneously positive and negative (Jenkins and McKelvie, 2016).. Prior attention has been paid mainly to consequences (Wennberg and DeTienne, 2014), to identify tangible and intangible negative effects (Walsh and Cunningham, 2017), including financial and emotional costs (Shepherd and Cardon, 2009). A one-sided view on effects reveals a vital research gap on positive outcomes (Politis, 2008), given that effects, especially those in the long term, might be either negative,*

positive or irrelevant (Jenkins *et al.*, 2014). Therefore a more granular view is needed (Walsh and Cunningham, 2016, 2017).

The perspective on EF skewed towards negative effects is narrow also in terms of scope and levels of analysis. As noticed in prior literature (Walsh and Cunningham, 2016), the negative perspectives on EF effects are usually boiled down to individually perceived costs, predominantly the financial consequences. For instance, Ucbasaran *et al.* (2013) examine several costs' dimensions of EF: financial, social, and psychological, whereas they also further consider emotional and motivational, or psychological consequences. Another limitation of prior views on EF effects refers to a narrow view of benefits restricted to learning.

Overall, we find that EF can trigger various and complex effects (Cannon and Edmondson, 2001; Singh *et al.*, 2007; Jenkins and McKelvie, 2016; Dias and Teixeira, 2017). Such a view contrasts with a clear focus on learning (Yamakawa and Cardon, 2015) and calls for a more multidimensional and multilevel exploration of different effects triggered by EF (Ucbasaran *et al.*, 2013) going beyond negative implications (Walsh and Cunningham, 2016, 2017), and encapsulating further direct and indirect outcomes (Yamakawa and Cardon, 2015). The effects of EF vary in terms of the time of appearance and durability (Arino and de la Torre, 1998; Shepherd, 2003; Cope, 2011). Indeed, this stream of prior research has resulted in the development of the model of learning-related outcomes that chronologically categorise them into: (1) aftermath; (2) sense-making and learning; and (3) long-term outcomes (Dias and Teixeira, 2017). The effects of EF experienced by an entrepreneur (Eggers and Song, 2015; Hoetker and Agarwal, 2007; Knott and Posen, 2005; McGrath, 1999) in time are different. Hence, only some of them are directly triggered by the EF event. Entrepreneurs who have experienced failure may undertake direct interventions (McGrath, 1999) that lead to postponement in time, even longitudinally (Cope, 2011), of further effects of the EF event. Those interventions can be viewed through a cognitive, affective, and behavioural response lens (Walsh and Cunningham, 2017). Their outcomes are iterative and involved in the individual's understanding, processing, and reacting (Walsh and Cunningham, 2017). Responses to failure vary depending on professional experience (Patzelt and Shepherd, 2011; Shepherd *et al.*, 2016), cognitive and perception skills (McGrath, 1999; Wennberg and DeTienne, 2014; Lin *et al.*, 2018), personality (Loh and Dahesihisari, 2013) and/or demographic profile (Baù *et al.*, 2017; Dias and Teixeira, 2017; Walsh and Cunningham, 2017; Lin *et al.*, 2018) of a particular entrepreneur. Furthermore, purposefully undertaken actions to avoid or postpone EF effects vary in different communities, regions (Cardon *et al.*, 2011) or industries (Macpherson *et al.*, 2015).

Methodology

Our study follows the process approach and focuses on identifying the last building block of the EF process, namely, EF effects types, scopes and levels of impact.

To examine the current stock of knowledge, we conducted a structured literature review (SLR) as this rigorously integrates, synthesises, and helps advance existing knowledge (Waddington *et al.*, 2018). Following the methodological guidelines (Tranfield *et al.*, 2003), relevant journal articles were collected from the EBSCO databases, including the following sub-databases: Business Source Premier, EconLit, Entrepreneurial Studies Source, plus PsycInfo, as dealing with failure is a question of a psychological nature. The search scheme was following: words *fail or failure or failing* as Title, AND *business or startup or venture or entrepreneur** as Title AND *consequences or effects or outcomes or learn** as optional field. Furthermore, the search was not extended by the term 'exit'. In our conceptualisation, the EF and business or individual exit are not equivalent. Initial research results showed that EF and business and venture failure are often used as synonyms. Thus the words '*business*' and '*venture*' were also included in the search field as a combination with failure. The outcome without restrictions was 213 articles. Subsequently, the search was restricted to academic articles, including qualitative or quantitative empirical studies, and by language (English only). Furthermore, we excluded the works from non-economic, non-business, and non-management areas (Mas-Tur *et al.*, 2020), and thus identified 47 papers.

Next, in both types of screening, that is, abstract and discussion/conclusion reading, we applied several exclusion criteria: (1) the article included EF only in keywords, and the concept was not sufficiently discussed in the article itself; (2) the focus of the discussion shifted from the consequences of business failure to the prevention of business failure; and (3) the article discussed only a cause of EF without considering its effects on entrepreneurs. After reading the abstracts and conclusion sections of selected publications, only 18 articles met our quality criteria and have been considered as relevant to address the research question. With regard to the type of papers, there is one SLR, four conceptual papers, and 13 empirical articles. The articles provide empirical findings using qualitative (six papers), quantitative (six papers), and mixed research (one paper) approaches. The predominance of empirical works points at development of the research field. Note, the first quantitative study was published in 2014. Until that point, researchers used more explorative and qualitative research methods, with the very first study published in 1998.

The next stage focused on selected works' detailed review, to assess their quality and determine the current

state of knowledge on the effects of EF. Given that review outputs are sensitive to biases of the researcher's subjectivism (Durach *et al.*, 2017), this stage was triangulated, that is, performed separately by three researchers independently, and then individual findings were discussed and integrated within the research team.

Our last step aimed to report the results constituting the remaining part of this article. SLRs are expected to report on the current stock of knowledge, identify knowledge gaps, and outline relevant research directions. In a more advanced form, the SLR can also develop new insights and provide conceptual contribution by connecting the current and promising domains (Tranfield *et al.*, 2003; Durach *et al.*, 2017). Therefore, an in-depth and critical review of works on the effects of EF focused on both reporting the existing recognition and proposing a holistic view on EF effects based on, and hence pushing further the current recognition.

Prior identification of entrepreneurial failure outcomes

An identification of only 18 previous articles on EF effects clearly shows that so far scholarly attention has been modest. Moreover, among prior works research on learning effects clearly dominates other topics (Yamakawa and Cardon, 2015). It is worth noticing also that scholars tend to move beyond the entrepreneurship field boundaries (e.g., Levitt and March, 1988; Arino and de la Torre, 1998; Rhaïem and Amara, 2019). Generally, although the explorations seem to adopt a quite narrow views on effects, namely, one level only and just positive or negative effects, scholars enrich their exploration by using perceptions, knowledge, and implications from the fields of organisational behaviour, attribution theory, applied psychology and sociology (Shepherd and Cardon, 2009; Cope, 2011; Patzelt and Shepherd, 2011; Eggers and Song, 2015; Jenkins and McKelvie, 2016; Shepherd *et al.*, 2016; Jeng and Hung, 2019).

Learning effects: The individual-level positives of entrepreneurial failure

Scholars agree that it is crucial to recognise failure as part of a learning journey, and to understand it as the mechanism underlying the dynamic sense-making process (Shepherd *et al.*, 2009, 2016). In general, learning from any failure is an essential part of the learning process: it helps, accelerates, and enriches the development of new capabilities by breaking out of old patterns of thinking (Cope, 2011; Oster, 2017).

Entrepreneurs are aware of high failure rates. Given the underlying meaning of entrepreneurship (Stevenson and Jarillo, 1990), they do not plan failure, and thus do not expect to benefit any lesson from it. Nonetheless, when

they experience failure, many of them can recognise and exploit learning opportunities in a more or less aware and intended manner. Still, learning from failure is seen as rather an emergent than planned effect of experiencing the EF event (Lin *et al.*, 2018).

The literature on EF learning-related effects focuses mostly on the positives and applies the grief recovery concept (Shepherd, 2003). However, learning from failure, even if beneficial in the long-term (Cope, 2011) usually also brings many negative – or even disruptive – effects on the entrepreneur's professional and social life (Ucbasaran *et al.*, 2013; Jeng and Hung, 2019). Additionally, the scope of EF learning effects usually refers to entrepreneurs, whereas there are claims that learning from failure can also impact other individual and organisational entities.

Using psychological theories of grief recovery, Shepherd (2003) states that the business loss caused by individually experienced EF brings the self-employed to feel grief – a negative emotional response that interferes with the ability to learn from the events surrounding that loss. The grief recovery model states that the dual process of grief recovery maximises learning from failure. On the one hand, learning from EF occurs when failed entrepreneurs can use the information available about the causes of failure to revise their existing knowledge on how to approach their entrepreneurial goals effectively, and manage their own business efficiently. The amount of available information appears to impact the degree to which grief interferes with the learning process. On the other hand, they find that individuals' cognitive limits can represent a barrier to learning. Hence, the availability of information and cognitive abilities to use it matter for the learning effects. Finally, the most effective learning processes include both *loss-oriented* and *restoration-oriented* coping styles with failures. Loss orientation involves confrontation, which is physically and mentally exhausting, while restoration orientation involves suppression, which requires mental effort and presents potentially positive consequences for one's health. The oscillation between these two behavioural modes provides a central regulating mechanism that enables individuals to obtain the benefits of each and minimise the costs of maintaining one for too long.

The seminal work on grief recovery revealed significant learning-related effects of EF at the individual level. Its further development reveals more impacts beyond the entrepreneur himself/herself, including the effects on organisations. Regarding how the decisiveness affects the consequences of failure, Shepherd *et al.* (2009) state that delaying business failure is costly to the business owner and slows the process of recovery, a phenomenon that might influence the later ability to engage in new business endeavours. Thus, the timing of new venture entry considered at the organisational level is conditioned

by how individuals undergo the recovery process. In some cases anticipatory grieving can minimise subsequent grief. Entrepreneurs are often aware that their business will fail before the event actually takes place. An optimal time to prepare for insolvency of 6 to 18 months before the EF is suggested to help entrepreneurs optimise the recovery process (Shepherd and Cardon, 2009).

The grief recovery concept is one of the most commonly used exploratory approaches. Singh *et al.* (2007), in a qualitative study, analyse rich interview data using multiple frameworks. They find confirmation of the notion of grief recovery after EF. Additionally, they identify four broader EF learning outcomes categories: economic, social, psychological, and physiological. The highest level of learning reported by entrepreneurs referred to psychological and social aspects of their lives. Respondents reported growing more realistic about their personalities and skills and the extent to which these traits are helpful in starting up a new venture (Singh *et al.*, 2007). However, the scope of considered EF effects, although it is much more multidimensional, again does not go beyond the individual level.

Amankwah-Amoah *et al.* (2016) extend the grief recovery model. Using multiple case studies of entrepreneurs in Sub-Saharan Africa, they identify four phases of post-EF: grief and despair, transition, formation, and legacy. The initial two entail the process of self-reflection and lessons learnt. The next two involve imprinting entrepreneurs' experiential knowledge on their successive new start-up firms and making the future businesses successful by relying on strategic resources, hence the time plays an essential role there. For instance, to overcome loss and think about a new venture, and to move from the transition to the formation phase, may take up to two years. In the formation phase, entrepreneurs try to bring their prior cognition and experiences into a new environment. It is a susceptible period that results in a new venture, with an organisational level impact. Indeed, the findings suggest that entrepreneurs entering the formation phase of post-business failure deploy their emotions and cognition to organise prior knowledge about identifying and exploiting new entrepreneurial opportunities, which subsequently influences the values, processes and routines adopted for the new business. Later, the legacy phase appears: it refers to strategic legacy sensitive to trusting the non-competing partners as well as business rival firms. Indeed, the experience of failing may make entrepreneurs reluctant to engage in collaborations, and thus restrict strategic options. Overall, the legacy phase covers shaping relationships of the new venture with its environment. Failure-experienced entrepreneurs tend to create an organisational culture reflecting prior personal beliefs and philosophies in the legacy phase as they have difficulties discarding old philosophies (Amankwah-Amoah *et al.*, 2016).

Using the psychological perspective and the grief recovery concept (Shepherd, 2003), Cope (2011) provides a framework of learning from a failure process that covers three subsequent phases: aftermath, recovery, and re-emergence, with critical self-reflection and reflexivity as mechanisms that turn this experience into learning. This perspective is broader than the original concept as it captures learning across the 'failure continuum' occurring during and after the grief recovery process. This approach contrasts with the theoretical contribution of Sitkin (1992) in that there is a difference between 'intelligent failures', which are small and relatively harmless and foster learning, and 'big failures', which challenge core beliefs and assumptions and are less likely to lead to learning because it is hard for an individual to process such a threatening experience. Note, although consideration of EF effects concentrates on individual impacts, organisational and environmental impacts are noted in every phase.

In the aftermath phase, entrepreneurial costs of failure – and their negative impacts on entrepreneurial self-efficacy and risk-taking propensity – are important. The public nature of failure, meaning that is observable by family, friends, and network contacts can lead to negative feelings of humiliation or remorse. These emotions may lead to a loss in self-esteem, a sudden reduction in social stature, and a decline in self-perceived, intraindustry, and general status (Cope, 2011).

The recovery phase represents the healing process in which some measure of temporal and psychological distance are required to overcome painful emotions of failure. Cope (2011) states that recovery from failure appears to involve three interconnected learning components: (1) an initial hiatus, where the entrepreneur psychologically removes him- or herself from the failure to heal; (2) a critical reflection, where the entrepreneur engages in a determined and mindful attempt to make sense of the failure; and (3) a reflective action, where the entrepreneur attempts to move on from the failure and pursue other opportunities. Although the recovery phase mentally and emotionally affects the entrepreneur, its last learning component – reflective action – impacts the future entrepreneur's venture.

The re-emergence phase provides learning outcomes from failure that fall into four broad themes: (1) learning about oneself (e.g., one's strengths, weaknesses, skills, attitudes, beliefs); (2) learning about the strengths and weaknesses of the venture, including reasons for the failure; (3) learning about networks/relationships, namely the nature and management of relationships, both internal and external to the venture; and (4) venture management, namely how to run and control businesses more effectively. Note, this phase reveals the very multi-level scope of impacts of EF effects on entrepreneur, past and future

entrepreneur's ventures, and entrepreneur's business environment.

The learning effects, beyond grief recovery and grief recovery-aftermath concepts, are often considered in a broader context and not necessarily limited only to the individual perspective. For instance, Mueller and Shepherd (2016), empirically explore the conditions under which transformational learning occurs. They link failure experiences and specific types of knowledge to skills of opportunity identification. The underlying cognitive psychology theory suggests that individuals identify opportunities by using models of opportunities that they already have in order to recognise patterns in the environment that indicate promising ideas for new ventures. Moreover, they found that individuals with expert opportunity prototypes are better equipped to transform failure experience into opportunity identification process knowledge. Expert opportunity prototypes help entrepreneurs to match better the capabilities of product/prototype with market opportunities. Finally, individuals who rely less on professional knowledge show a more positive relationship between business failure experience and structural alignment processes. This phenomenon is most likely because entrepreneurs with substantial professional knowledge have developed a cognitive preference for structural alignment processes. All in all, learning outcomes are conditioned by some individual characteristics. Those characteristics, as well as the learning outcomes, can influence future behaviours, entrepreneurial choices and impact at the organisational level of analysis.

Yu *et al.* (2014) explore the learning outcomes of failure for knowledge management. By examining high-tech technology ventures in China, they substantiate a positive association between learning from failure, and the development of new products. This study shows that learning outcomes impact entrepreneur, the entrepreneur's future business, and the market, competitors, customers, etc. Indeed, new products are developed and launched on the market can be listed among the results of the failure event.

The learning perspective on EF effects prevails in the literature. Prior literature is quite rich and provides a wide range of impacts spread out over time. The latest literature seems to cross the boundaries of individual level, and use perspectives beyond learning and knowledge management. Nevertheless, those learning effects are mainly considered to have the positive results primarily only at the individual level, and they are usually thought to be deferred in terms of their occurrence. However, empirical results are ambiguous. For instance, when considering the industry change as a consequence of learning from failure Eggers and Song (2015) show that remaining in the same industry and exploitation of

failure-related experience is a crucial explanation for the success of serial entrepreneurs, whereas Dias and Teixeira (2017) reveal that successful serial entrepreneurs are those who have changed industries.

Behavioural view on entrepreneurial failure effects: the causes versus organisational-level impacts

Another common approach investigates the outcomes of EF using behavioural theories. This stream of research usually focuses on serial entrepreneurs' behaviours, and provides insights on EF effects affecting an entrepreneur's future businesses. According to Oster (2017), the analysis of failure includes five steps: (1) gather all facts that might contribute to the failure relying on objectivity and thoroughness; (2) reconstruct the history of failure; (3) analyse the causation; (4) recommend how to prevent similar failures in the future; and (5) extrapolate how the findings might be applied to both similar and substantially different circumstances.

Eggers and Song (2015) draw on the behavioural theory of the firm to explore the learning outcomes of EF for serial entrepreneurs. They conclude that entrepreneurs will achieve different learning outcomes depending on which environment – internal or external – they blame for failure. Serial entrepreneurs are likely to blame the external environment, thus change industries for their subsequent venture, but maintain strategic approach and managerial style. Thus, in terms of scope EF effects impact both the environment, because the entrepreneur is leaving it, and the future organisation, because its core business differs from the entrepreneur's past venture. Furthermore, changing industries becomes costly, and the lack of potentially useful industry experience may hinder the success of subsequent ventures. The authors test their view on behaviour and learning heterogeneity of serial entrepreneurs using an extensive cross-industry survey. They show that remaining in the same industry from a previous to a subsequent venture is vital for later successful venture performance. Based on the attribution theory, they conclude that overconfident entrepreneurs are less likely to change internal factors, including management decision-making style, organisational planning approach, and firm strategy. This phenomenon leads to view the accumulation of industry-specific experience as a critical explanation for the success of serial entrepreneurs. Yet, Dias and Teixeira (2017) prove that despite of cause of the failure – organisation or environment – most serial entrepreneurs are changing industries.

In the same vein, Vaillant and Lafuente (2007), and subsequently Lafuente *et al.* (2018), state that entrepreneurs who tend to blame external factors (e.g., distribution channels and market conditions), as the main reasons for the negative performance of their venture in

EF are more likely to reject entrepreneurship as a carrier opportunity. However, resilient serial entrepreneurs see personal failures, such as bad planning and individual errors, as factors that led to EF. Error recognition and intrinsic motives would appear to be closely linked to entrepreneurial resilience triggering business re-entry despite past failures, thus providing organisational impacts in the future (Lin *et al.*, 2018). Such entrepreneurs also tend to apply new strategies to take advantage of the expanded capability that results from the generative learning of their experience (Sitkin, 1992). Those entrepreneurs who considered their past venturing experience as negative were less likely to re-initiate their entrepreneurial career. Furthermore, resilient serial entrepreneurs display a propensity towards international markets through their negative experiences in the past. These hypothesised relationships were tested on a sample drawn from a Spanish entrepreneur population. Serial entrepreneurs were found to have a significantly higher international market propensity compared to first-time novice entrepreneurs, so the organisational impacts of EF may take the international form. Moreover, they conclude that cognitive benefits of entrepreneurial experience on the internationalisation of subsequent venturing are realised by entrepreneurs who have had a positive experience, as well as by resilient entrepreneurs who have been able to learn and bounce back from past negative entrepreneurial experiences (Lafuente *et al.*, 2018). This finding may suggest that the effects of failure are not only paradoxical but also interlinked, and again, that they are spread over time.

In a similar approach, Jeng and Hung (2019) provided quantitative evidence that different types of costs associated with failure (e.g., social, economic, and psychological) affect learning opportunities. Their findings substantiate that utilising learning opportunities properly can lead to, and accelerate the intention to start a new business. Thus, they may be significant for the individual to become a serial entrepreneur.

To explore the phenomenon of serial entrepreneurs and to answer the question as to why failed entrepreneurs are taking this career perspective once again, Bau *et al.* (2017) find an explanation in the carrier and age interrelation. Based on the assumption that a career consists of three main stages (early, middle and late), they assume that the age of a failed entrepreneur has a nonlinear effect on the likelihood of the subsequent choice to re-enter entrepreneurship. They test their hypothesis on 4,761 entrepreneurs in Sweden whose businesses failed between 2000 and 2004. Both gender and a multiple-owner entrepreneurial experience appear to moderate the primary relationship across career stages. This finding suggests that individual effects of EF result from former stages of EF process (i.e., antecedents, driver or EF event), but they can also depend on the individual characteristics.

Furthermore, they observe that approximately 25% of sample re-entered entrepreneurship path and established new venture – here the main driver was the age of the failed entrepreneur – and thus, the individual characteristics can influence individual and organisational EF effects. Additionally, this study proves that at specific ages, gender start to play the role for deciding on re-entry.

Social and psychological consequences of entrepreneurial failure: positive and negative impacts

Some studies combine cognitive, behavioural, and personality theories when considering EF effects (Dias and Teixeira, 2017). They see the main problem in dealing with failure as outside the entrepreneur in the social practices, traditions, and institutions. Particularly, opportunities in gaining from failure depend on parents' behaviours that often shield their children from harm, as well as schools that reward students who committed fewer mistakes. These phenomena create control-oriented rather than learning-oriented behaviours that lead to a significant decrease in self-esteem when failing. Such practices drive individuals to engage in activities that improve their self-confidence and result in a situation when failure creates a sense of helplessness and thus diminishes the individuals' beliefs in their ability to undertake specific tasks in the future successfully. Studies concentrate on the perception that the individuals have of themselves, and examine the question as to what ways the individuals can change their business behaviours and practices in light of a previous failure event. Empirical work shows that previous failure strongly impacts individuals (Dias and Teixeira, 2017). Individuals who have already created successful businesses had a shorter post-failure depression compared to individuals who failed without previous success. Thus, experienced serial entrepreneurs appeared minimally affected by psychological costs of failure. Moreover, there is a correlation between age and psychological costs due to the fact that opportunity costs are lower when individuals are younger. Regarding the individuals' perception of risk after failure, the authors found that individuals maintained the same attitudes toward prospecting and assessing new market opportunities. Despite failures, they kept trying, with many reporting an increase in confidence. This attitude was affected by significant cognitive changes: knowing they can survive failure increased their resilience.

Regarding the sociocultural level of EF, several authors refer to the stigma concept. EF stigma is a multilevel phenomenon whereby social groups form collective judgments about the consequences of bearing a particular stigma marking, and individuals who bear that marking are socialised to incorporate the judgments of the broader society into their conception of self. Cope (2011) compared American and British entrepreneurs to conclude

that American ones see failure as a part of entrepreneurial activity, while their British counterparts see a stigma attached to failure in society. Simmons *et al.* (2014) find that in countries (i.e., data collected from 23 countries) where levels of stigma and regulatory conveyance of stigma markings were high, entrepreneurs who experienced EF were less likely to re-enter into entrepreneurial activity. Further, the significant correlation of stigma and regulatory conveyance predicts that the likelihood of early re-entry in high stigma countries decreases with high levels of regulatory conveyance about failure events. The likelihood that exited entrepreneurs organise their re-entry as a sole owner start-up activity is higher in countries with high stigma and low regulatory conveyance of stigma. Another finding is that if the stigma of failure is low, but the institutional control over the visibility of the stigma markings is high, failed entrepreneurs have some bargaining power against institutions. This suggests that failed entrepreneurs can pursue more active strategies and negotiate with the constituents in their environments.

Coming back to social practices, traditions, and regional aspects, most researchers argue that the perception of EF by entrepreneurs is essential to EF effects. Evidence from Elenkov and Fileva's (2006) case study shows the importance of sociocultural value orientation in society, where entrepreneurs are going to operate as one of the main predictors of EF. They particularly explore the failing of British companies in Eastern Europe (Bulgaria) during the 1990s. Despite the sociocultural similarities between UK and Bulgaria, the behavioural differences were undervalued. Gaining knowledge about the prevailing economic ideology and specificity of the socio-cultural value orientations and applying this knowledge to business practice may prevent from EF event or minimise its negative impacts in the future.

EF regional aspect is also discussed by Cardon *et al.* (2011), who investigate it in different regions of the USA to conclude that some regions (e.g., Atlanta, San Francisco) view failures as more misfortune-driven, while other states (e.g., Chicago, New York) tend to attribute failures to entrepreneurial mistakes. A significant correlation between regionalism and blame for failure suggests a negative association with the entrepreneur's sense of personal failure, and the willingness to re-entry. This result indicates that the individual's experience in overcoming obstacles such as failure leads to resiliency and a sense of self-efficacy, in line with Sitkin (1992), who suggest that negative feedback from failure can be even more motivating than positive. Thus, there are two views on EF: the negative view, which sees failure as an obstacle to continue entrepreneurial activity, and the positive view, which regards failure as an important learning opportunity and acts as a catalyst for further economic and business development (Cardon *et al.*, 2011).

Comprehensive framework of entrepreneurial failure effects

We view the EF as continuum (Cope, 2011) that spans from causes to effects. Therefore, although our SLR focused on EF effects, the review-based framework of EF effects includes detailed and comprehensive view on the entire EF process including multifaceted causes, event, and different effects (Figure 2).

Time is essential for understanding EF as a process (Jeng and Hung, 2019). The passing time involves changes within which causes trigger the event of failure, and EF event generates effects. There is a time difference between appearance of antecedents and drivers, subjective and internal experiencing failure, the transposition of this experience into the objective and external failure event, and effects. The role of time is important also at the last stage of EF process.

Different effects may appear at distinct times after the failure event transpires (Dias and Teixeira, 2017). The timeframes are determined by the need to elapse time in order to react (Walsh and Cunningham, 2017), and: gain the beneficial effects (e.g., to learn; Cope, 2011); open a new venture (Yamakawa and Cardon, 2015); recover (Dias and Teixeira, 2017); or undertake profitable strategic actions in future (Lin *et al.*, 2018). All in all the effects of EF are unstable and changeable over time (Yamakawa and Cardon, 2015).

The results of our SLR show that the effects of EF can be differentiated based on time to event, level of impacts, and longevity. This allows us to distinguish direct effects, indirect effects, and long-term outcomes. So far, EF direct and more proximate in time to the EF effects dominate, and were examined in many contexts such as social, psychological and economic ones (Shepherd, 2003; Ucbasaran *et al.*, 2013; Dias and Teixeira, 2017). There is a significant stock of knowledge about individually experienced effects, including both direct and indirect ones (Shepherd and Cardon, 2009; Cope, 2011; Amankwah-Amoah *et al.*, 2016).

At the same time, the literature emphasises the need to investigate longitudinal effects (Zahra and Dess, 2001; Lin *et al.*, 2018), such as longer-term outcomes (Dias and Teixeira, 2017) characterised by multi-level impacts (Wennberg and DeTienne, 2014). The long-term outcomes appear with delay, and impact the entrepreneurs who failed, their future/current organisation, and business environment (McGrath, 1999; Knott and Posen, 2005; Hoetker and Agarwal, 2007). Those effects are labelled as 'outcomes' (Dias and Teixeira, 2017; Jeng and Hung, 2019) instead of 'effect' to stress the contrast with remaining two sets of EF effects, that is, direct and indirect effects, both of which affect the entrepreneur only.

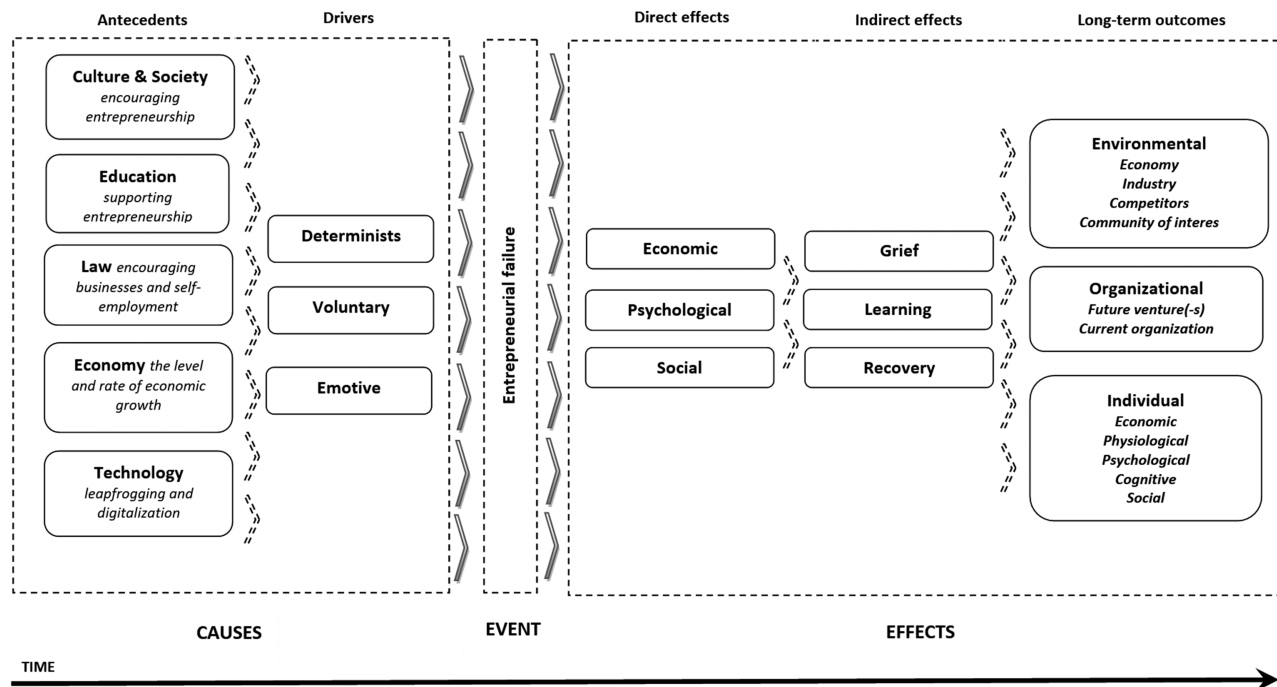


FIGURE 2 An expanded view on entrepreneurial failure process – from antecedents to long-term outcomes

From failure antecedents to outcomes

The EF process involves six building blocks that cover two types of causes, the event of failure and three types of effects. It ranges from the external, dynamic, and uncontrollable antecedents to long-term outcomes considered simultaneously at environmental, organisational, and individual levels.

In the attribution theory perspective, EF causes can be considered from a more or less individual perspective, including locus, stability, and controllability (Weiner, 1985). Following this approach, the causes of EF can be divided into antecedents and drivers. Antecedents located in the macro-environment are rather stable in a long term and influence EF while remaining out of the entrepreneur's control.

Antecedents do not differentiate the failure of entrepreneurs operating in a particular country, but may differentiate failure in different industries due to differences in laws and regulations, technology advancement, competitive pressure, the role of innovation development, etc.

EF drivers include external and internal factors. We embrace Khelil (2016) approach in sharply distinguishing such drivers as determinist causes within the micro-environment that is external to the entrepreneur, voluntary causes within organisation that is neither external nor internal to the entrepreneur; and emotions felt by entrepreneurs. Drivers are rather dynamic, unstable in the long term, and interdependent. Contrary to failure antecedents, drivers are controllable by the entrepreneur's to different degrees. The most considerable degree of

control is specific to emotive causes, while determinist drivers are least controllable. In turn, voluntary causes are more or less controllable depending on the venture type, namely, greater controllability in family firms and self-employment, and smaller in case of large and global companies. Given the multi-level nature of EF, we underscore that drivers relate to all levels of analysis, while antecedents relate to the macro level only. Furthermore, all causes of EF are interdependent (Wennberg and DeTienne, 2014).

The second building block of EF refers to the failure event. In the pool of collected articles, no studies focused exclusively on this particular stage of EF. Scholars seem to tacitly assume that the event of EF is objective, formal, and identifiable. At the same time, some suggestions show the EF event is a long-term, dynamic process of experiencing the failure, the individual, and internal process of growing disappointment ending with the act of externally and objectively observable failure. Yet, this component is the most individual-related and personalised because it refers to the 'entrepreneur's entry into a psychological state of disappointment' (Khelil, 2016, p. 5) caused by 'not achieving expectations' (Dias and Teixeira, 2017 p. 4). This makes that EF event broader than the objective act of failure observable by external stakeholders, and highly uncertain in terms of timing and execution (Wennberg and DeTienne, 2014).

The third EF process building block is the most complex because it involves three-tiered and three-level types of effects. Following claims about the significance of the passing time (e.g., Cope, 2011; Yamakawa and

Cardon, 2015; Walsh and Cunningham, 2016, 2017; Dias and Teixeira, 2017; Lin *et al.*, 2018; Jeng and Hung, 2019), and differences in the scope and the direction of impacts, the effects of EF are divided into three types: direct, indirect, and long-term outcomes.

Direct effects include economic, psychological, and social (Shepherd, 2003; Cope, 2011) implications of failure. This type of effect is the closest to the failure event in terms of the time of appearance. They may occur immediately after, or at the same time as the failure event. The entrepreneur experiences direct effects, and so they are considered to have only individual impacts. They are detrimental, but temporary, and lead to further effects that can be recognised only if there is sufficient time for critical self-reflection (Ucbasaran *et al.*, 2013).

Indirect effects occur if enough time elapsed to deal with direct aftermath (Dias and Teixeira, 2017), and direct effects have reached sufficient strength. Indirect effects cover successive forms, from grief, through learning to recovery (Shepherd, 2003; Shepherd and Cardon, 2009). This type of effects is conditioned by both the impact of direct effects, and the entrepreneur's individual predispositions to cope with experiencing the failure event (Wennberg and DeTienne, 2014; Shepherd *et al.*, 2016). Similarly to direct effects, indirect ones manifest themselves at the individual level of analysis. However, in contrast to direct effects, the occurrence of indirect effects is uncertain (Wennberg and DeTienne, 2014) and unpredictable, because the individuals' reaction to failures varies substantially (Jenkins *et al.*, 2014; Yamakawa and Cardon, 2015). Indeed, the personal characteristics of an entrepreneur (Cope, 2011), including age and tenure (Baù *et al.*, 2017) and socio-cultural and institutional context (Simmons *et al.*, 2014), play an essential role in handling the aftermath.

The EF does not end with indirect effects but can lead to further postponed outcomes (Dias and Teixeira, 2017). Those *long-term outcomes* are not just individual level (e.g., economic, physiological, psychological and social outcomes; Singh *et al.*, 2007), but generate implications that go beyond the entrepreneur and may manifest themselves in the formation of new ventures (Amankwah-Amoah *et al.*, 2016) or significant changes and development inside the industry (Eggers and Song, 2015). Some long-term outcomes of EF are most distant in time from the failure event and the most unpredictable type of effects. Long-term outcomes impact the entrepreneur at individual level, the entrepreneur's current and future businesses at organisational level, and the socioeconomic surroundings of the entrepreneur who failed at environmental level. Those multilevel effects may be both positive and negative (Cardon *et al.*, 2011). Among the myriad of benefits increases of knowledge available inside the industry (Hoetker and Agarwal, 2007), improvements in organisational routines inside the former

organisation of the failed entrepreneur (Shepherd *et al.*, 2016), reductions of industry costs (Knott and Posen, 2005) and long-term learning outcomes for entrepreneur itself (Dias and Teixeira, 2017) can be listed. Negative effects include lower motivation for and decreased engagement in future business (Ucbasaran *et al.*, 2013), including professional isolation, exclusion, and social stigma within the professional community (Ucbasaran *et al.*, 2013; Simmons *et al.*, 2014; Walsh and Cunningham, 2017), as well as the slowdown of the current entrepreneur's business (Shepherd *et al.*, 2016), weakening of network and intra-industry relationships (Walsh and Cunningham, 2016) or a significant decrease in trust within the community or society in which the failed entrepreneur had core position (Cope, 2011; Shepherd *et al.*, 2016). The opportunity to gain from positive outcomes – and to avoid the negative ones – depends on former effects as well as on individual motivations to create new ventures (Wennberg and DeTienne, 2014; Baù *et al.*, 2017).

Overall, our model offers a more granular and comprehensive model by involving: (1) time variability of components considered within the building blocks; (2) differences in locus, stability, controllability, and relationship with the failure event among the distinct types of causes; and (3) differentiation in time closeness to a failure event, locus, and level of effects resulting from the EF event.

Multilevel long-term outcomes

EF affects entrepreneurs (Cope, 2011; Ucbasaran *et al.*, 2013; Jenkins and McKelvie, 2016; Dias and Teixeira, 2017) broadly and multidimensionally (Singh *et al.*, 2007). Although individual-centric studies on EF effects dominate in the literature (Walsh and Cunningham, 2016), we find that effects, including the long-term outcomes in particular, have a multilevel impact on individuals, organisations, and society (Cardon *et al.*, 2011).

Our SLR shows a significant imbalance in EF effects literature stemming from a deficit of research from the perspective of current or future entrepreneur's organisation, and a surprising lack of research on impacts on business and social surroundings. Moreover, EF building blocks are quite rarely examined at various levels of analysis (Cardon *et al.*, 2011), or use the firm-level and individual-level interchangeably (Jenkins and McKelvie, 2016). Therefore, we agree with the previous suggestions that more than just individual levels (Mantere *et al.*, 2013; Jenkins and McKelvie, 2016) should be developed. A more comprehensive perspective (Walsh and Cunningham, 2017) is needed to build theory-driven relevant knowledge on EF (Ucbasaran *et al.*, 2013).

Furthermore, it is difficult to find studies that consider intersections or at least simultaneous recognition of two or three levels together (Wennberg and DeTienne, 2014). It is a significant deficiency of current understanding because levels of EF causes (Shepherd *et al.*, 2016) and its effects (Ucbasaran *et al.*, 2013) are interlinked, mutually dependent, and to some extent iterative (Walsh and Cunningham, 2016). These features make them highly unstable and changeable over time (Yamakawa and Cardon, 2015) and thus more difficult to grasp and evaluate.

Following Mantere *et al.* (2013) and Wennberg and DeTienne (2014) who state that it is theoretically reasoned and methodologically required to consider multi-level effects of EF, we propose the three-level approach to long-term EF outcomes (Figure 2), including impacts on the entrepreneur who failed (individual impacts), future and/or current organisation of the entrepreneur who failed (organisational impacts), and the external environment of the entrepreneur who failed (environmental impacts).

Our model covers three levels of long-term outcomes. First, there is an individual level referring to a wide range of results experienced by the entrepreneur, namely economic, physiological, psychological, and social ones. Second, there is an organisational level referring to impacts made either on the future or current organisation in which the entrepreneur who failed will be/was engaged. The latter type of organisational outcomes suits the situation when EF does not coincide with business failure (e.g., business closure, bankruptcy, etc.). Third, there is an environmental level referring to impacts: on economy/industry, ecosystems/business networks, competitors, coopetitors; and community of interest, including informal structures of individuals like communities of entrepreneurs or entrepreneurship ecosystems.

We believe our approach to long-term EF outcomes supports and extends prior considerations about the effects of EF. While most of research does not differentiate between individual and organisational levels when discussing the EF phenomenon, some studies find that this distinction is an important starting point in their research, including the studies focused on the exploration of learning-related effects (Jenkins and McKelvie, 2016). This approach justifies the inclusion of the organisational level (Mantere *et al.*, 2013). Indeed, both the model of learning from failure, and the model of responses to failure assume that multilevel approach, simultaneously addressing the issues typical for individual and organisational level, is needed to grasp the complex nature of EF implications (Shepherd *et al.*, 2016).

Similarly, Cope (2011) suggests that the learning effects of EF may be beneficial for the current venture as lessons learnt about the strengths and weaknesses of the venture, for external networks and inter-organisational

relationships as improvement of relational capability, and for future ventures in developing managerial skills. McGrath (1999) places a strong emphasis on the economy level the failure impacts, which can be related to, for instance, economic growth, technological progress, or changes in law and policy. Similarly, theoretical claims made by Hoetker and Agarwal (2007) or Knott and Posen (2005) highlight impacts on the economy as well as industry, competitors, and business networks (Soetanto *et al.*, 2018). The EF effects on business surroundings support findings that failures have a spillover effect on other market players, including their products and services (Allen *et al.*, 2015). If so, we should consider the spillover effects of EF – at least on competitors and coopetitors – in a strategic perspective.

Our three-level approach to long-term outcomes is consistent with prior works. They conclude that when considering EF causes (Khelil, 2016), a focus on entrepreneurs only is incomplete. Research should also address the entrepreneur's organisation and environment, particularly if the study crosses the entrepreneurship and adopts management or strategic management perspective. Similarly, we follow suggestions made in innovation management literature that when investigating innovation failure factors influencing learning, focus should be made on individual, organisational and environmental levels, otherwise results are selective and invalid (Rhaïem and Amara, 2019).

Conclusions

EF is a complex and dynamic phenomenon (Wennberg and DeTienne, 2014). We argue it is also a multilevel process that brings different types of effects staggered over time. We provide a comprehensive framework (Figure 2) that facilitates and may guide further investigation in view of rigorously accumulating empirical evidence on this important phenomenon. We encourage scholars to undertake studies covering all its components starting from exploration of EF antecedents and ending with recognition of its heterogeneous outcomes identifiable in a long-term perspective and on several levels of analysis. Our framework helps guiding future research and identifying gaps in current understanding (Ferreira *et al.*, 2019).

Our article has put its major emphasis on the last component of EF process – the effects. As a leading theoretical contribution to EF literature, we offer a time-based categorisation of EF effects, that incorporates multilevel effects, and two-sided long-term outcomes. Effects can usefully be differentiated through sources, stability, and controllability. Therefore, to some extent, the effects of failure seem to reflect the same attributes as causes (Lin *et al.*, 2018; Weiner, 1985 ; Yamakawa

and Cardon, 2015). Given that our multilevel and two-faceted framework of EF effects considers the failure location, we argue that addressing their stability and controllability is important for understanding this crucial phenomenon.

In our framework, EF effects are diversified and multi-level. Given that the causes of EF take the different forms as well, it would be interesting to explore the potential links among those varieties, for example, the significance and strength of the impact of different causes on different EF effects. Furthermore, as both the causes and effects of EF are claimed as three-level issues, we believe it is interesting to find out how the causes (if any) identifiable at particular levels do correspond more or less strongly with the different types of effects considered at different levels of analysis. Our model (Figure 2) can serve as an expanded illustration of the overall EF process, from antecedents to long-term outcomes. It thereby enables future research to position clearly within its realm and extend the more detailed – either qualitative or quantitative – investigation in each of the identified phases of an EF.

Finally, the mechanisms behind learning from the failure seem to be well covered in the entrepreneurship literature from different points of view. Researchers applied cognitive, behavioural, and personality theories and developed an extensive base of mechanisms that effectuate the learning process. There are only a few studies that examine these assumptions quantitatively. These studies are not focused on EF effects as on specific empirical construct; rather, they use them just as a research context. Moreover, no study simultaneously considers different levels of EF effects or attempts to identify the interlinks between various causes and different effects of EF. Last but not least, there is no single study in our pool which actually *measures* EF effects. Given the above, further qualitative and quantitative evidence is needed to examine the assumptions based on prior fragmentary and explorative qualitative investigations.

An important step will be to develop mechanisms to translate the findings into practice. Any discourse on failure – not only the academic one – is of course, always culture-, context- and perspective-related, if not even -driven. As some authors discussed, given the general social intolerance against failures in some cultural contexts, it is necessary to include the topic of handling failures on the educational level to make people more confident in handling failures.

Additionally, in the education of business/management students, case studies should not be limited to the examples of *best practices*. It is common in aircraft and military disciplines to also investigate failures, but less popular in management practices. This deficiency leads to difficulties for management students to handle failure in their professional life. Although case studies about best

practices are important, they have limitations with regard to hiding details of success. We believe that EF might even be actively included to management education for students to learn how to deal and live with it to avoid potential stigma later in their careers due to an inability to respond to failure effectively. Research results show that learning from failure is highly demanding as it requires the systematic collection and analysis of wide range of information to determine the root causes of a specific failure event. Therefore detailed failure analysis, including collection of all information to determine the roots of failure, development and reporting recommendations to prevent the failure event it in the future should be included in managerial courses (Oster, 2017). We believe that investigating how to turn the mechanisms of learning from failure into educational practices constitutes a significant challenge for future research.

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